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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,179	12/07/2001	William Ford	450117-03683	4143

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EXAMINER

MARSCHER, ARDIN H

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 08/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,179

Applicant(s)

FORD ET AL.

Examiner

Ardin Marschel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10-30 have been canceled. ~~is/are objected to.~~
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Applicants' election without traverse of Group I (claims 1-9) in Paper No. 5, filed 4/7/03, is acknowledged.

TITLE

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The presently pending claims are solely directed to linker molecules whereas, in contrast, the present title includes both linker molecules as well as their uses.

VAGUENESS AND INDEFINITENESS

Claims 5 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8, line 3, contains two citations of the phrase "derivatives thereof". These derivatives lacks a definition of metes and bounds of derivation practice and therefore are vague and indefinite as to what is meant regarding said metes and bounds. For example, without further definition of what is meant regarding a derivative, any addition, change, or deletion may be applied which would thus permit such a derivative to result in any other material whatsoever. Claim 5 also contains an unclear "derivatives thereof" limitation which also lacks clear metes and bounds. Clarification via clearer claim wording is requested.

PRIOR ART

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rombeck et al. [Inorganica Chimica Acta 273:31 (1998)].

Rombeck et al. discloses compound 1 which contains both a Pd complex moiety (a metal coordination complex alkylating agent as in instant claims 5 and 6) at one end which is disclosed in the abstract as being a nucleic acid binding group via N7 guanine with an amine moiety at the other end, separated by a covalently attached spacer, which is shown on page 33 in the top of Figure 3 which is a nanoparticle binding group as generically cited in instant claim 1 and specifically cited in instant claims 8 and 9. These disclosures therefore anticipate the above listed instant claims. It is noted that claims 3 and 4 are included as rejected herein because they limit only the intercalating agent selection options or the groove-binding agent selection options, respectively, but are still deemed to include the alkylating options from claim 2 from which they depend.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Beyer et al. [J. Med. Chem. 41:2701 (1998)].

Beyer et al. summarizes in the abstract that maleimide derivatives are made which include a spacer and are alkylating agents. The alkylating activity is determined as disclosed on page 2702, second column, second full paragraph as being a characteristic of the 2-chloroethane (selection within instant claim 5) termini therein. Compounds 1 and 2 in Scheme 1 on page 2702 depict such molecules with a maleimide derivatized carboxyl end as well as the 2-chloroethane alkylating end with a covalent spacer linking these two ends. Instant claims 2 and 8 are anticipated in that an alkylating moiety is cited as a nucleic acid binding group in claim 2 and a carboxylic acid derivative (maleimide in the reference) is a nanoparticle binding group in claim 8. Therefore, the reference anticipates the above listed instant claims. It is noted that claims 3 and 4 are included as rejected herein because they limit only the intercalating agent selection options or the groove-binding agent selection options, respectively, but are still deemed to include the alkylating options from claim 2 from which they depend.

Claim 1 is rejected under 35 U.S.C. 102(b) and (e)(2) as being clearly anticipated by Nilsen et al. (P/N 5,175,270).

Nilsen et al. depicts a bead structure which binds a nucleic acid via hybridization which in turn binds another nucleic acid, which may be attached to another bead, via hybridization as shown in Figure 5. The middle nucleic acid of Figure 5 anticipates the above listed instant claims because it covalently shows a spacer between the hybridizing segments with end groups which bind a nanoparticle bead at one end and a

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nucleic acid at the other end, albeit also attached to another bead. It is noted that the instant disclosure lacks any specific size limitation regarding nanoparticles. Preferred sizes are set forth, but no definition that specifically limits all nanoparticle practice. The sizes of various beads of Nilsen et al. are measured in nanometers as listed in Table 1 in columns 7-10 and thus qualify their description as being nanoparticles as instantly claimed.

No claim is allowed.

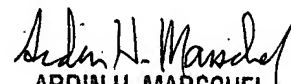
Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

August 8, 2003


ARDIN H. MARSCHEL
PRIMARY EXAMINER